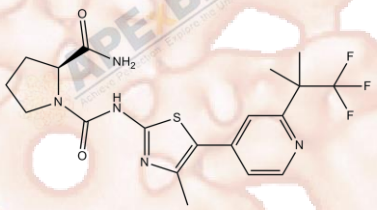
Product Data Sheet

BYL-719



Cat. No.:	A8346
CAS No.:	1217486-61-7
Formula:	C19H22F3N5O2S
M.Wt:	441.47
Synonyms:	BYL 719; BYL719
Target:	PI3K/Akt/mTOR Signaling
Pathway:	PI3K
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

≥22.07 mg/mL in DMSO; insoluble in H2O; insoluble in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.2652 mL	11.3258 mL	22.6516 mL
5 mM	0.4530 mL	2.2652 mL	4.5303 mL
10 mM	0.2265 mL	1.1326 mL	2.2652 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Selective PI3Kα inhibitor
IC_{50} & Target	5 nM (PI3Kα)

In Vitro

Cell Viability Assay

Cell Line:	Multiple myeloma cells (OPM1, OPM2, RPMI8226, U266, MM1s,MM1R) and NCI-H9290
Preparation method：	Limited solubility. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	37°C

	Applications:	BYL719 prominently decreases the activation of the PI3K signaling proteins (pAKT, pS6R, and pGSK), this effect are also observed in slico that BYL719 decreases the expression of the PI3K signaling proteins in a dose-dependent manner. Furthermore, BYL719 dose-dependently triggers G1 arrest and induces apoptosis in MM cells.
In Vivo	**Animal experiment**	
	Animal models:	5-week-old male C57Bl/6J mice transplanted with human osteoblastic osteosarcoma
	Dosage form:	Oral administration, 12.5–50 mg/kg daily
	Applications:	BYL719 significantly reduces tumor volumes in a dose-dependent manner and reduces the tumor ectopic bone. In addition, BYL719 decreases the surface of TRAP+ osteoclasts without affecting the number of osterix+ cells. Moreover, BYL719 decreases of KI67+ cell number and reduces tumor vascularization.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. White SM, Avantaggiati ML, et al. "YAP/TAZ Inhibition Induces Metabolic and Signaling Rewiring Resulting in Targetable Vulnerabilities in NF2-Deficient Tumor Cells." Dev Cell. 2019 May 6;49(3):425-443.e9.PMID:31063758
2. Han MW, Ryu IS, et al."Phosphorylation of PI3K regulatory subunit p85 contributes to resistance against PI3K inhibitors in radioresistant head and neck cancer." Oral Oncol. 2018 Mar;78:56-63.PMID:29496059

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References

1. Azab F, Vali S, Abraham J, Potter N et al. PI3KCA plays a major role in multiple myeloma and its inhibition with BYL719 decreases proliferation, synergizes with other therapies and overcomes stroma-induced resistance. Br J Haematol. 2014 Apr;165(1):89-101.
2. Gobin B, Huin MB, Lamoureux F et al. BYL719, a new α-specific PI3K inhibitor: single administration and in combination with conventional chemotherapy for the treatment of osteosarcoma. Int J Cancer. 2015 Feb 15;136(4):784-96.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt

of the product, follow the storage recommendations on the product data sheet.

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